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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/626,771	07/25/2003	Patrick Duvaut	060707-1470	1848
24504 7590 01/10/2007 THOMAS, KAYDEN, HORSTEMEYER & RISLEY, LLP 100 GALLERIA PARKWAY, NW STE 1750 ATLANTA, GA 30339-5948			EXAMINER TSE, YOUNG TOI	
			ART UNIT	PAPER NUMBER
			2611	
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		01/10/2007	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

RP

Office Action Summary	Application No.		Applicant(s)	
	10/626,771		DUVAUT ET AL.	
	Examiner		Art Unit	
	YOUNG T. TSE		2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-37 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 32-34 and 37 is/are allowed.
- 6) ☒ Claim(s) 1-4, 6-10, 12, 16-25 and 27-31 is/are rejected.
- 7) ☒ Claim(s) 5, 11, 13-31, 35 and 36 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>20040308</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement filed March 08, 2004 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent document; each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered.

Specification

2. The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT.
- (e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC.
- (f) BACKGROUND OF THE INVENTION.
 - (1) Field of the Invention.
 - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (g) BRIEF SUMMARY OF THE INVENTION.
- (h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (i) DETAILED DESCRIPTION OF THE INVENTION.

- (j) CLAIM OR CLAIMS (commencing on a separate sheet).
- (k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
- (l) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

3. The specification fails to include the heading of (h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S) and the contents to briefly describe each of Figs. 1-26.
4. The disclosure is objected to because of the following informalities: at page 65, line 12, "8116" should be "18₁₆". Appropriate correction is required.
5. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Objections

6. Claims 5, 10, 13-31 and 35-36 are objected to because of the following informalities:
 - In claim 5, line 3, "the first and second" should be "the first and second subsets of".
 - In claim 10, line 1, "and HSTU-R" should be "and the HSTU-R".
 - In claim 13, both lines 1-2 and 4, the term "a given time window" should be "the given time window" for clarity.

In both claim 13 (line 13) and claim 14 (lines 1-2), "the time window" should be "the given time window".

In claim 15, line 3, "with second symbol rate" should be "with the second symbol rate".

In claim 16, lines 7 and 13, "HSTU-R" and "by near end cross talk" should be "the HSTU-R" and "by the near end cross talk", respectively.

In claim 22, line 9, "the second rate" and "the first rate" should be "the second symbol rate" and "the first symbol rate", respectively.

In claim 26, lines 2 and 3, "the second rate" and "the first rate" should be "the second symbol rate" and "the first symbol rate", respectively; and line 4, "carrier sets" should be "subsets of carrier sets".

In claim 31, line 1, "and HSTU-R" should be "and the HSTU-R".

In claim 35, both lines 1-2 and 5, the term "a given time window" should be "the given time window" for clarity; and lines 2-3, "a symbol rate" should be "the symbol rate" for clarity.

In both claim 35 (line 14) and claim 36 (lines 1-2), "the time window" should be "the given time window".

The dependent claims 17-21 are objected to because they are depended on the independent claim 16.

The dependent claims 23-25, 27 and 29-30 are objected to because they are depended on the independent claim 22.

Appropriate correction is required.

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7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 10, 12, 16-22, 28 and 31 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In both claim 10 and 31, "TCM-ISDN" is undefined.

In claim 12 (lines 2-3), claim 16 (lines 10 and 11-12), and claim 28 (line 1), the terms "the identified handshake symbol transmission rate", "the at least one handshake symbol", and the noise interference" all lack antecedent basis.

The dependent claims 17-21 are rejected to because they are depended on the independent claim 16.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

10. Claims 1, 6, 10, 22, 27 and 31 are rejected under 35 U.S.C. 102(e) as being anticipated by Kim U. S. Patent No. 6,847,679.

Kim discloses an ADSL network in Fig. 2 comprising an ADSL adapter 20 having 20-30 numbers of ADSL transmission unit-centrals (ATU-C) 22 and a plurality of ADSL transmission unit-remotes (ATU-R) 30 corresponding to the ATU-C 22.

Fig. 3 shows a detailed view for illustrating a modulation and transmission section of the symmetric digital subscriber line transmitter/receiver in Fig. 2.

Fig. 4 shows a detailed view for illustrating a demodulation/receiving unit of the asymmetric digital subscriber line transmitter/receiver in Fig. 2.

With respect to claims 1 and 22, as shown in Figs. 2-4, the ADSL network performs the operation of: transmitting handshake signaling from the ATU-C 22 to the ATU-R 30 via a first subset of carrier sets (32, 34, 36) at a first symbol rate; and transmitting handshake signaling from the ATU-C 22 to the ATU-R 30 via a second subset of carrier sets (31, 33, 36) at a second symbol rate, the second symbol rate (64 kb/s) being less than the first symbol rate (640 kb/s or 6 Mb/s). See column 4, line 39 to column 6, line 30.

With respect to claims 6 and 27, inherently, the second subset of carrier sets includes carrier sets with noise greater than noise present in the first subset of the carrier sets because the second symbol rate of the second subset of carrier sets being less than the first symbol rate of the first subset of the carrier sets.

With respect to claims 10 and 31, the ATU-C 22 and the ATU-R 30 are in bidirectional communication via a TCM-ISDM network because the low signals are received from the POTS and ISDN networks through terminals V_{CH1} and V_{ch2} , which is

well known to a person skill in the ASDL communication system. See column 1, lines 11-22 and column 4, lines 60-65.

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

13. Claims 2-4, 7-9, 23-25 and 28-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim as applied to claims 1 and 22 in view of the prior art discussion of the instant application.

With respect to claims 2-4 and 23-25, although Kim does not teach that the first symbol rate is 539.0625 symbols per second and the second symbol rate is 269.53125 symbols per second. The instant application described in the description of the related

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prior art that the first symbol rate of 539.0625 symbols per second and the second symbol rate of 269.53125 symbols per second being used in ADSL communication system. Therefore, it would have been obvious to one of ordinary skill in the art to use specific symbols rates or different symbol rates in Kim's low and high channels which is also the choice of design to select the symbols rates in the channels in order to achieve the goal of transmitting two different transmission rates in the ADSL communication system.

With respect to claims 7 and 28, the instant application described in the description of the related prior art and which is also well known to a person skill in the art to know that the noise interference used in an ADSL communication system includes near end cross talk or far end cross talk.

With respect to claims 8-9 and 29-30, the instant application described in the description of the related prior art that the second subset of carrier sets, such as, provide by a Fourier transformer, includes a carrier set C43 and/or A43. Therefore, it would have been obvious to one of ordinary skill in the art that the second subset of carrier sets provided in Kim's IDFT 36 and/or DFT 43 includes a carrier set C43 and/or A43.

Allowable Subject Matter

14. Claims 32-34 and 37 are allowed.
15. Claim 11 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
16. Claims 5, 13-15 and 26 would be allowable if rewritten to overcome the objection(s) set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.
17. Claim 12 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.
18. Claims 16-21 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.
19. Claims 16-21 would be allowable if rewritten or amended to overcome the objection(s) set forth in this Office action.
20. Claims 35-36 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Conclusion

21. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Goldenberg et al. relates to a dual-speed, dual format full-duplex two-wire voice-band data transmission system provides automatic selection at the answering terminal responsive to a handshaking sequence which is compatible with existing systems operating at telephone speeds.

Ginesi et al. relates to methods for reducing power required for transmitting a signal from a first transceiver to a second transceiver.

Eriksson et al. relates to a peak-to-average power ratio (PAR) of a signal while at the same time providing improved signal-to-noise-and-distortion and increased dynamic range.

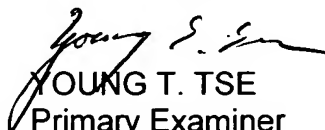
Sjoberg et al. relates to a VDSL transmission system in which power control is used to reduce FEXT, a modem for use in a VDSL system, and a method of reducing FEXT in a VDSL transmission system by using power back-off.

Adas et al. relates to a method for performing power management without losing data, connectivity or reachability.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to YOUNG T. TSE whose telephone number is (571) 272-3051. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on (571) 272-2988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


YOUNG T. TSE
Primary Examiner
Art Unit 2611